

CLAIMS:

1. An LC oscillator for producing an oscillator signal, the oscillator comprising:
 a resonance circuit comprising a first and a second capacitor and a first and a
 second inductance for determining the frequency of the oscillator signal, and
 an active circuit comprising a first and a second PMOS transistor for
5 amplifying the oscillator signal, the gate of each said transistor being directly coupled to the
 drain of the other transistor so as to provide a directly cross-coupled transistor pair,
 wherein the active circuit is coupled to the resonance circuit, characterized in
 that the oscillator further comprises a first and a second auxiliary transistor circuit for further
 amplifying the oscillator signal, each said auxiliary transistor circuit having an input terminal
10 coupled to the drain of the first and second PMOS transistor respectively.
2. An LC oscillator according to claim 1, wherein the first and the second
 auxiliary transistor circuits each have an output terminal coupled to the source of the first and
 second PMOS transistor respectively.
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3. An LC oscillator according to claim 2, wherein the output terminals of the first
 and second auxiliary transistor circuit are coupled to the sources of the PMOS transistors
 through coupling capacitors.
- 20 4. An LC oscillator according to claim 3, wherein the first and second PMOS
 transistor are each provided with a controllable back gate coupled with an output terminal of
 a respective auxiliary transistor circuit.
5. An LC oscillator according to claim 3, wherein the first and second auxiliary
25 transistor circuit are connected in series with the first and the second PMOS transistor
 respectively.
6. An LC oscillator according to claim 1, wherein the first and the second
 auxiliary transistor circuits each have an output terminal coupled to the resonance circuit.

7. An LC oscillator according to any of the preceding claims, wherein the first and the second auxiliary transistor circuit comprise a bipolar transistor.
- 5 8. An LC oscillator according to any of the preceding claims, wherein the first and the second auxiliary transistor circuit comprise a MOS transistor, preferably an NMOS transistor.
9. An LC oscillator according to any of the preceding claims, wherein the first
10 and/or the second capacitor is a variable capacitor.
10. An LC oscillator according to any of the preceding claims, wherein the resonance circuit is directly coupled to ground.
- 15 11. An integrated circuit, comprising an LC oscillator according to any of the preceding claims.
12. A device comprising an LC oscillator for producing an oscillator signal, the oscillator comprising:
20 a resonance circuit comprising a first and a second capacitor and a first and a second inductance for determining the frequency of the oscillator signal, and
 an active circuit comprising a first and a second PMOS transistor for amplifying the oscillator signal, the gate of each said transistor being directly coupled to the drain of the other transistor so as to provide a directly cross-coupled transistor pair,
25 wherein the active circuit is coupled to the resonance circuit, characterized in that the oscillator further comprises a first and a second auxiliary transistor circuit for further amplifying the oscillator signal, each said auxiliary transistor circuit having an input terminal coupled to the drain of the first and second PMOS transistor respectively.
- 30 13. A device according to claim 12 which is a television or telecommunications device.